WHAT IS CLAIMED IS:

1.   A method of controlling a display system, comprising:

    (a)   dividing a frame of digital display data into a plurality of sub-frames;

    (b)   determining illumination intensities for the plurality of sub-frames;

    (c)   generating analog grayscale voltages for the digital data in the sub-frames
based on the illumination intensities; and

    (d)   applying a control voltage to a pixel electrode based on a sum of the analog
grayscale voltages generated in (c), said control voltage corresponding to one of a predetermined
number of grayscale levels.

2.   The method of claim 1, wherein the plurality of sub-frames is greater than 1 and
less than or equal to N, where N corresponds to a number of bits in the digital data.

3.   The method of claim 3, further comprising:
    selecting N to achieve a predetermined brightness loss level of the display system.

4.   The method of claim 4, wherein N is selected to minimize brightness loss level
of the display system.

5.   The method of claim 1, wherein step (a) includes:

dividing the frame into a first sub-frame of least significant bits and a second sub-frame of most significant bits.

6.   The method of claim 5, wherein the control voltage at least substantially equals a sum of the analog grayscale voltages generated for the first and second sub-frames.

7.   The method of claim 1, wherein step (c) includes:

computing a voltage difference ΔV by dividing a maximum analog pixel voltage V with a grayscale G; and

generating the analog grayscale voltages for the digital data based on the voltage difference ΔV.

8.   The method of claim 1, wherein step (c) includes:

computing a voltage difference by at least dividing an analog voltage range for the display system by the predetermined number of grayscale levels; and

generating the analog grayscale voltages for the digital data based on the voltage difference.

9.   The method of claim 8, wherein the analog voltage range is determined based on a difference between upper and lower voltage limits of the pixel electrode.

10.   The method of claim 1, wherein times of the sub-frames are weighted and illumination across all sub-frames is uniform.

11.   The method of claim 1, wherein times of the sub-frames are uniform and illumination is weighted.

12.   The method of claim 1, wherein times of the sub-frames are uniform and the plurality of sub-frames is a number equal to $2^N + 1$, wherein $N > 0$.

13.   A system for controlling a display system, comprising:

a divider which divides a frame of digital display data into a plurality of sub-frames;

a first controller which determines illumination intensities for the plurality of sub-frames;

a voltage generator which generates analog grayscale voltages for the digital data in the sub-frames based on the illumination intensities; and

a second controller which applies a control voltage to a pixel electrode based on a sum of the analog grayscale voltages, said control voltage corresponding to one of a predetermined number of grayscale levels.

14.   The system of claim 13, wherein the first and second controllers are a same controller.

15.   The system of claim 13, wherein the plurality of sub-frames is greater than 1 and less than or equal to N, where N corresponds to a number of bits in the digital data.

16.   The system of claim 15, wherein N has a value which corresponds to a predetermined brightness loss level of the display system.

17.   The system of claim 16, wherein the value of N minimizes the brightness loss level.

18.   The system of claim 13, wherein the divider divides the frame into a first sub-frame of least significant bits and a second sub-frame of most significant bits.

19.   The system of claim 18, wherein the control voltage at least substantially equals a sum of the analog grayscale voltages generated for the first and second sub-frames.

20.　　The system of claim 13, wherein the voltage generator computes a voltage difference ΔV by dividing a maximum analog pixel voltage V with a grayscale G, and generates the analog grayscale voltages for the digital data based on the voltage difference ΔV.

21.　　The system of claim 13, wherein the voltage generator computes a voltage difference by at least dividing an analog voltage range for the display system by the predetermined number of grayscale levels, and generates the analog grayscale voltages for the digital data based on the voltage difference.

22.　　The system of claim 21, wherein the analog voltage range is determined based on a difference between upper and lower voltage limits of the pixel electrode.

23.　　The system of claim 13, wherein times of the sub-frames are weighted and illumination across all sub-frames is uniform.

24.　　The system of claim 13, wherein times of the sub-frames are uniform and illumination is weighted.

25.　　The system of claim 13, wherein times of the sub-frames are uniform and the plurality of sub-frames is a number equal to $2^N + 1$, wherein $N > 0$.